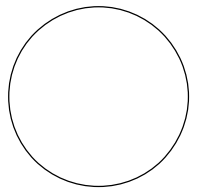


- BOAT RAMP
 - CONCESSION - BOAT RENTAL
 - FISH ATTRACTOR
 - FISH CLEANING STATION
 - INFORMATION
 - MODEL AIR FIELD
 - PARK OFFICE
 - PARK RESIDENCE
 - PICNIC AREA - BROWN TABLES - HANDICAP ACCESSIBLE
 - PLAY FIELDS
 - RESTROOM
 - SHELTER
 - SNOWMOBILE TRAIL
 - MULTI-USE TRAIL
HIKING
BIKING
CROSS COUNTRY SKIING
- SHELTER NAMES**
- A ATLANTIC
 - B BEVERLY DINGHY
 - C CADET
 - D DOUSTER
 - E ENSIGN
 - F FIREFLY
 - G GANNET
 - H HAMPTON
 - I INLAND CAT
 - J JOLLYBOAT
 - K BEACH SHELTERS 1, 2, 3

PROJECT LOCATION

CONSULTANT:



IOWA DEPARTMENT OF NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034



PROJECT LOCATION MAP

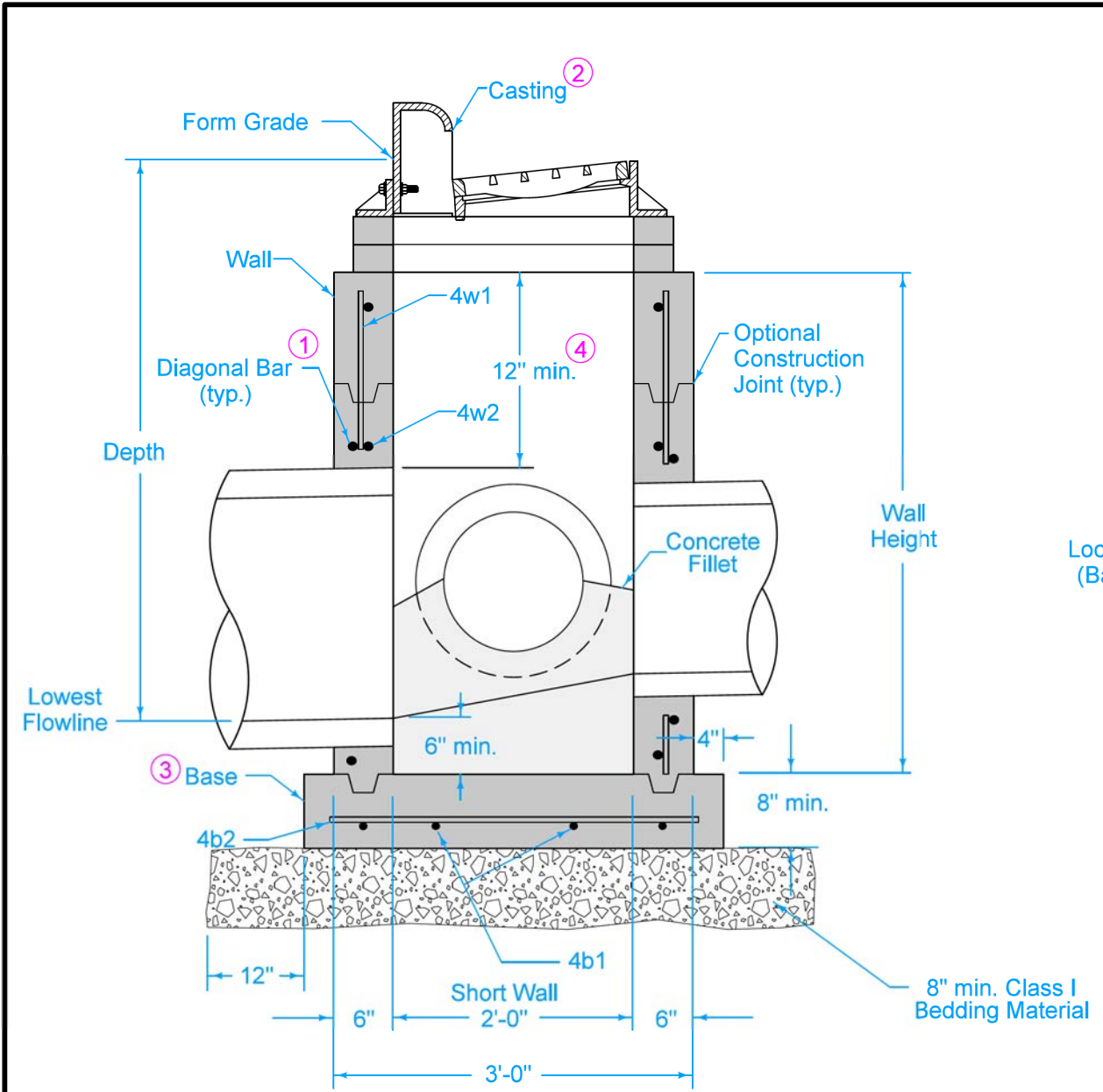
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POLK COUNTY

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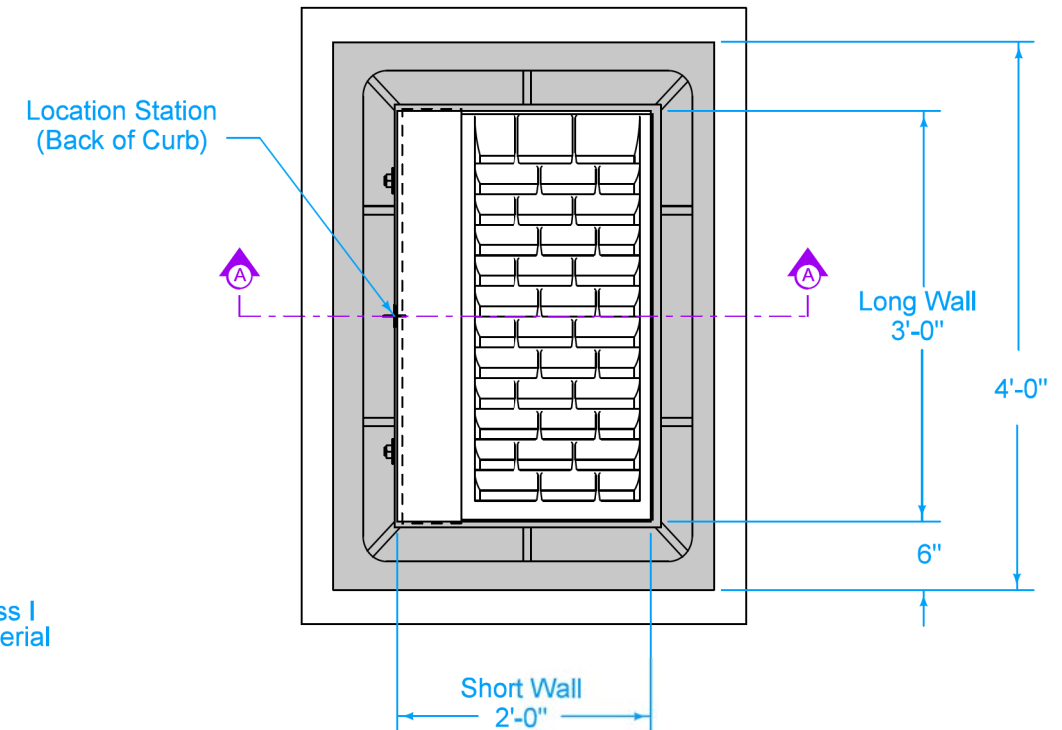
DRAWN BY: PROJECT NUMBER:
22-02-77-01

CHK'D BY: DATE:

SHEET No.:



SECTION A-A



PLAN

- Refer to SW-514 for boxout details.
- ① Install four #4 diagonal bars at all pipe openings.
 - ② SW-603 Type R unless Type Q is specified in the contract documents.
 - ③ Cast-in-place base shown. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.
 - ④ 12 inch minimum wall height above all pipes.

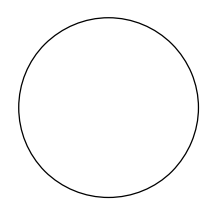
REINFORCING BAR LIST						
Mark	Size	Location	Shape	Length	Count	Spacing
4w1	4	Walls	—	Wall Height minus 4"	14	12"
4w2	4	Long Walls	—	3'-8"	Varies	12"
4w3	4	Short Walls	—	2'-8"	Varies	12"
4b1	4	Base	—	4'-2"	4	10"
4b2	4	Base	—	3'-2"	5	10"

MAXIMUM PIPE DIAMETERS		
Pipe Location	Precast Structure	Cast-in-place Structure
Short Wall	15"	18"
Long Wall	24"	30"

SUDAS IOWADOT FIGURE 6010.501 STANDARD ROAD PLAN	REVISION 3 04-21-20
	SW-501 SHEET 1 of 1
REVISIONS: Added Class I Bedding Material.	
Paul D. Weigand SUDAS DIRECTOR	
Shawn Miller DESIGN METHODS ENGINEER	
SINGLE GRATE INTAKE	

FIGURE 6010.501 SHEET 1 OF 1

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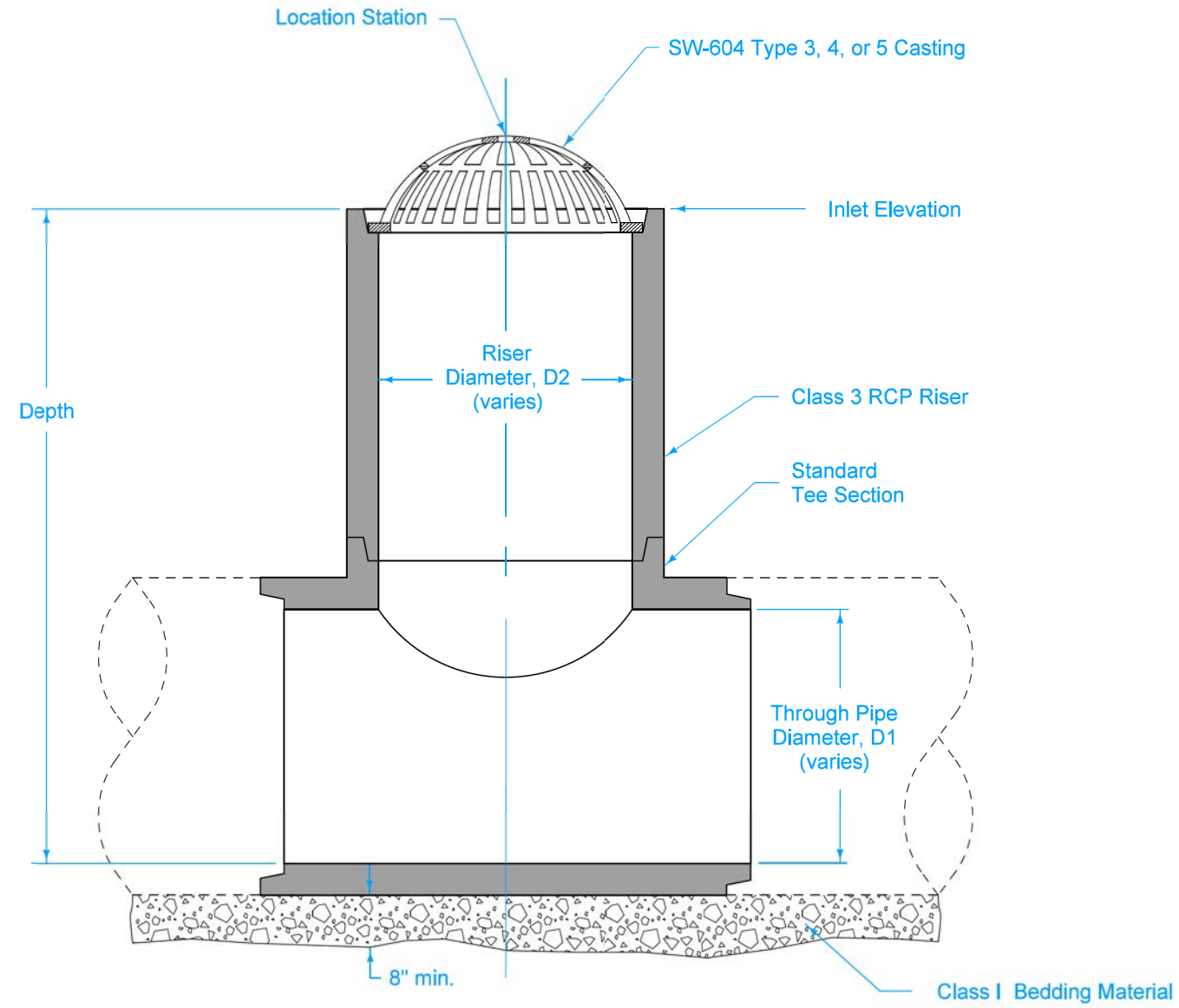
TYPICAL CROSS SECTIONS AND DETAILS

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 POLK COUNTY

NO.	BY	REVISION

SHEET NO: **B.01**

③ Minimum riser diameter is 18 inches.



TYPICAL SECTION

CASE 2

INTAKE SIZE - CASE 2	
Through Pipe Diameter, D1	Maximum Riser Diameter, D2 ③
18"	18"
21"	18"
24"	24"
27"	24"
30"	30"
36" or more	36"

SUDAS	IOWA DOT	REVISION
		4 04-21-20
FIGURE 6010.512	STANDARD ROAD PLAN	SW-512
		SHEET 2 of 2

REVISIONS: Changed 1 to I on Bedding Material.

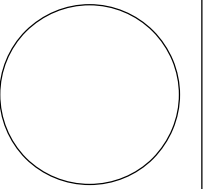
Paul D. Weigand
 SUDAS DIRECTOR

Stuart Miller
 DESIGN METHODS ENGINEER

CIRCULAR AREA INTAKE

FIGURE 6010.512 SHEET 2 OF 2

CONSULTANT:



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TYPICAL CROSS SECTIONS AND DETAILS

PCC PAVING FOR:

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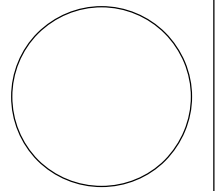
DRAWN BY: PROJECT NUMBER:
22-02-77-01

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SHEET No:

B.02

CONSULTANT:



IOWA DEPARTMENT OF NATURAL RESOURCES

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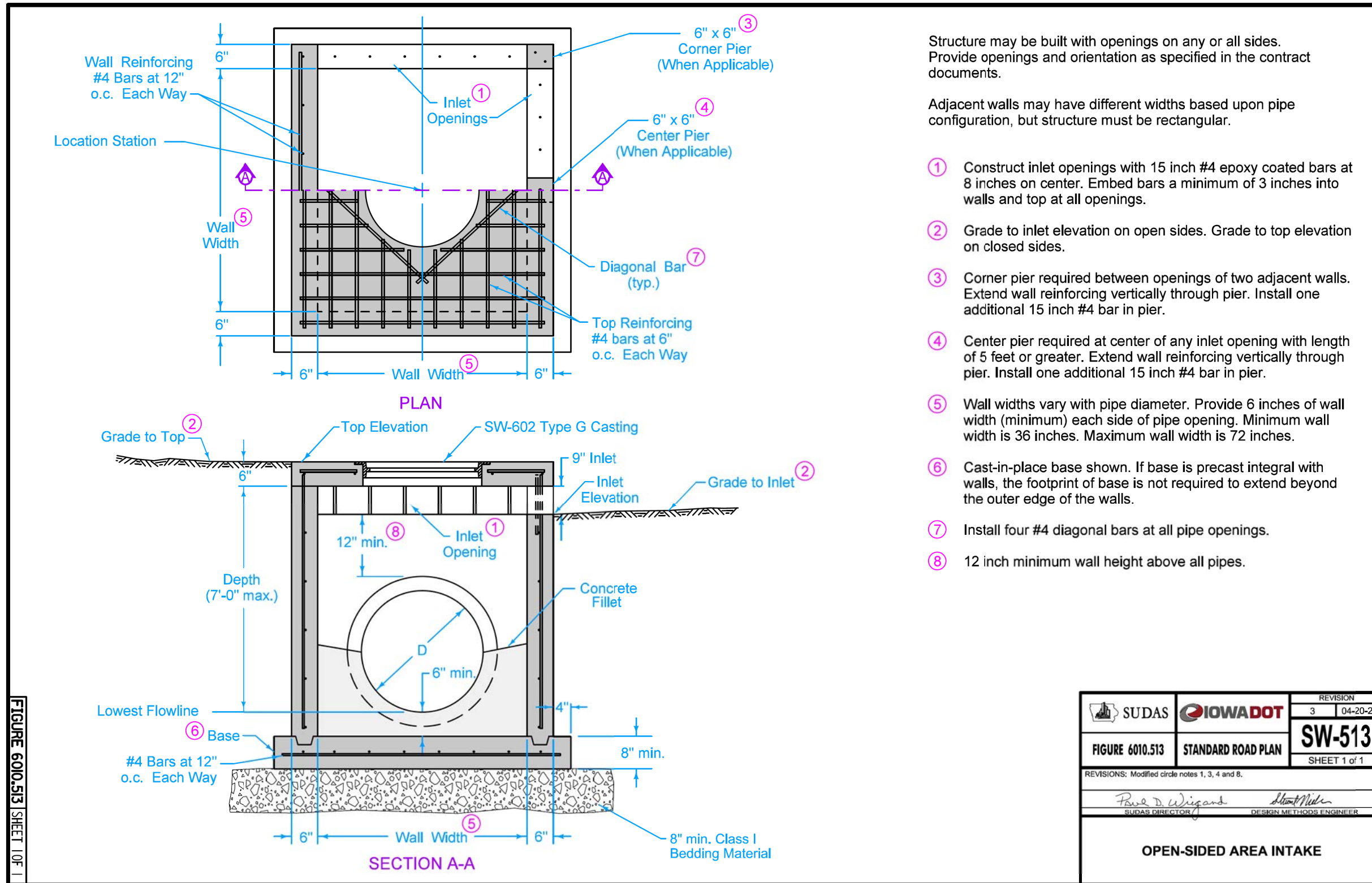
TYPICAL CROSS SECTIONS AND DETAILS

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POLK COUNTY

NO.	BY	REVISION

SHEET No:

B.03



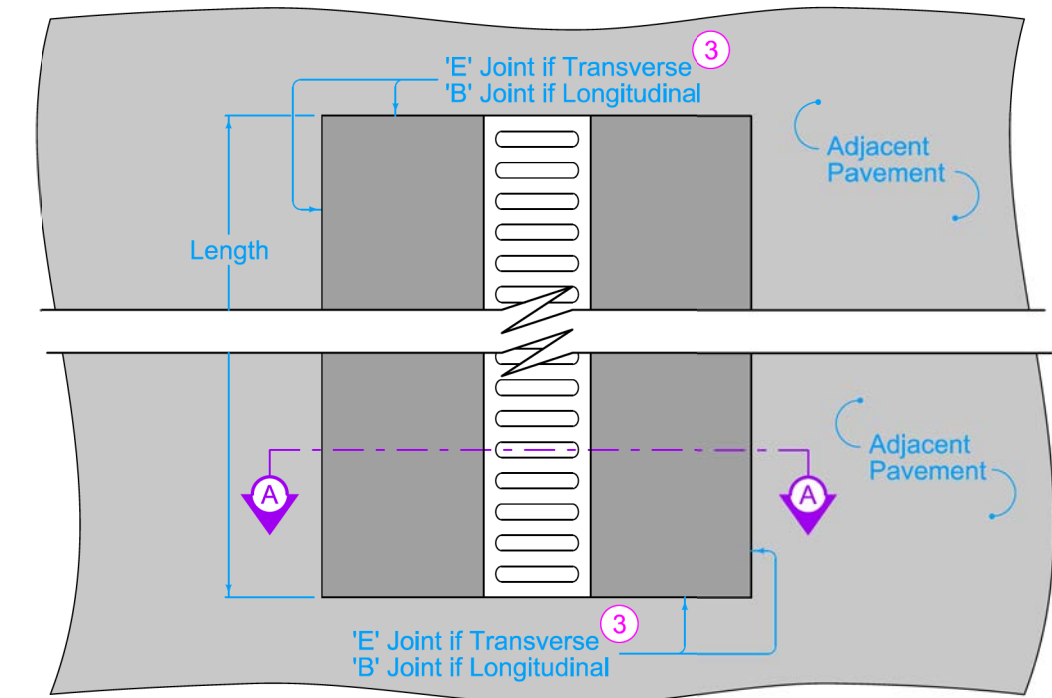
Structure may be built with openings on any or all sides. Provide openings and orientation as specified in the contract documents.

Adjacent walls may have different widths based upon pipe configuration, but structure must be rectangular.

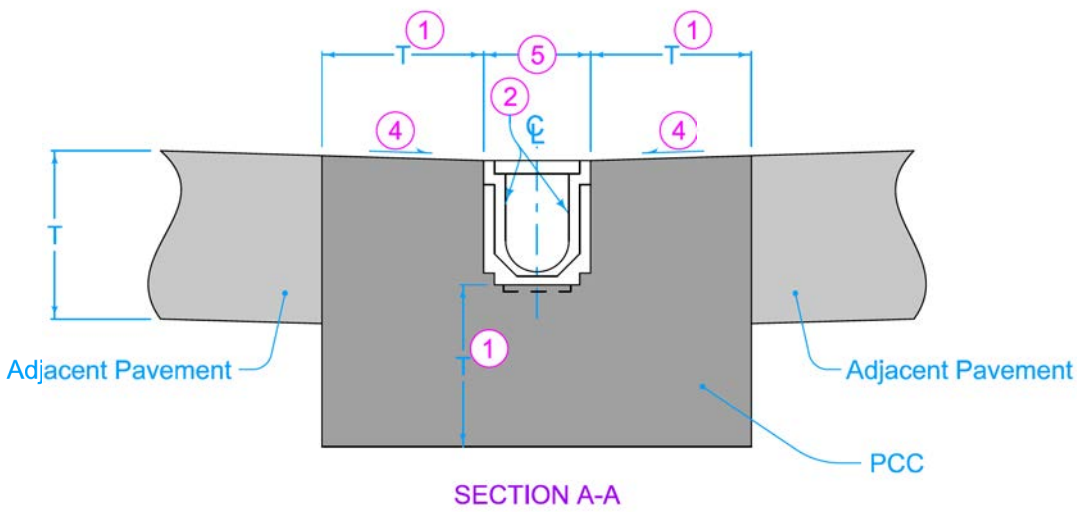
- (1) Construct inlet openings with 15 inch #4 epoxy coated bars at 8 inches on center. Embed bars a minimum of 3 inches into walls and top at all openings.
- (2) Grade to inlet elevation on open sides. Grade to top elevation on closed sides.
- (3) Corner pier required between openings of two adjacent walls. Extend wall reinforcing vertically through pier. Install one additional 15 inch #4 bar in pier.
- (4) Center pier required at center of any inlet opening with length of 5 feet or greater. Extend wall reinforcing vertically through pier. Install one additional 15 inch #4 bar in pier.
- (5) Wall widths vary with pipe diameter. Provide 6 inches of wall width (minimum) each side of pipe opening. Minimum wall width is 36 inches. Maximum wall width is 72 inches.
- (6) Cast-in-place base shown. If base is precast integral with walls, the footprint of base is not required to extend beyond the outer edge of the walls.
- (7) Install four #4 diagonal bars at all pipe openings.
- (8) 12 inch minimum wall height above all pipes.

SUDAS	IOWA DOT	REVISION	
		3	04-20-21
FIGURE 6010.513	STANDARD ROAD PLAN	SW-513	
REVISIONS: Modified circle notes 1, 3, 4 and 8.		SHEET 1 of 1	
<i>Paul D. Weigand</i> SUDAS DIRECTOR		<i>Shawn Nider</i> DESIGN METHODS ENGINEER	
OPEN-SIDED AREA INTAKE			

FIGURE 6010.513 SHEET 1 OF 1



PLAN



SECTION A-A

- ① 6 inches or same as thickness of adjacent pavement, whichever is greater.
- ② Linear Trench Drain.
- ③ For joint details, see PV-101.
- ④ Slope same as adjacent pavement.
- ⑤ Width as determined by manufacturer.
~~Minimum 6 inches.~~

Minimum width is 12 inches

SUDAS	IOWADOT	REVISION
		2 04-21-20
FIGURE 6010.521	STANDARD ROAD PLAN	SW-521
		SHEET 1 of 2

REVISIONS: Converted to joint standard. Modified circle note 1.

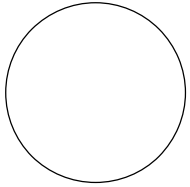
Paul D. Wigand
 SUDAS DIRECTOR

Steve Miller
 DESIGN METHODS ENGINEER

LINEAR TRENCH DRAIN	
DRAWN BY:	PROJECT NUMBER: 22-02-77-01
CHK'D BY:	DATE:

FIGURE 6010.521 SHEET 1 OF 2

CONSULTANT:



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TYPICAL CROSS SECTIONS AND DETAILS

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BIG CREEK STATE PARK

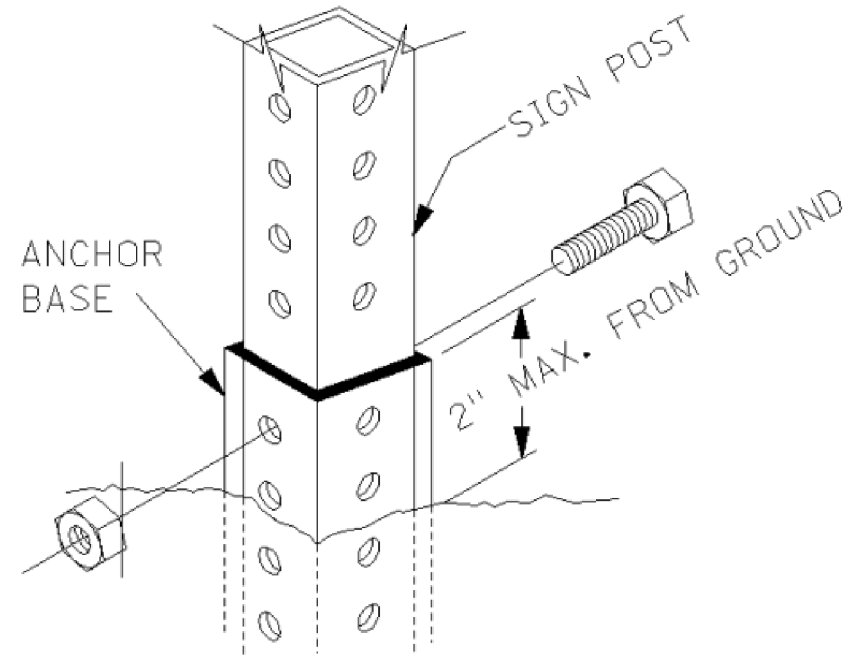
POLK COUNTY

NO.	DATE	REVISION

SHEET No: **B.04**

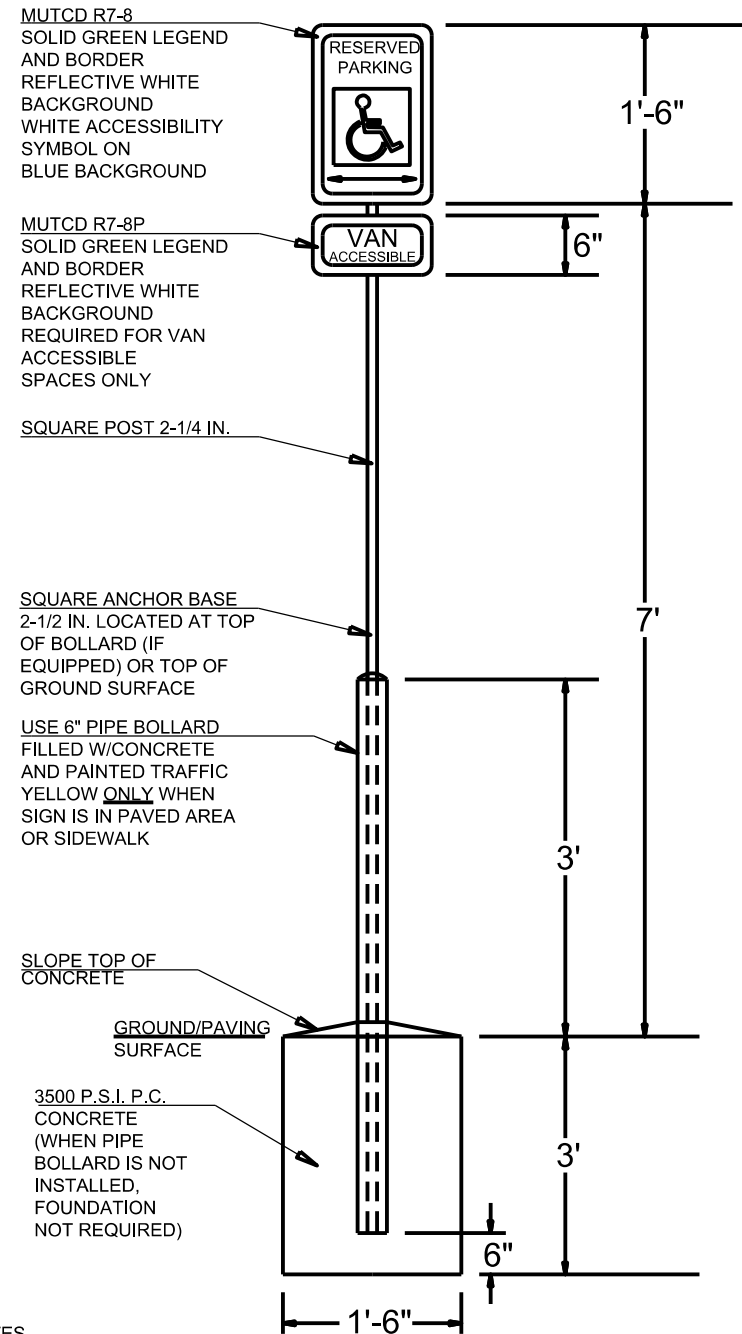
BREAK-AWAY TYPE STEEL POST DETAILS

SQUARE TUBE POST



ALL SIGN POST SHALL CONSIST OF SQUARE POSTS BOLTED TO AN EMBEDDED SQUARE ANCHOR BASE. ANCHOR DEPTH IS MINIMUM 30 INCHES. TUBULAR STEEL POSTS SHALL BE 2-1/2 IN. SQUARE TUBES. TUBULAR STEEL ANCHOR BASES SHALL BE 2-1/2 IN. SQUARE, AND SHALL FIT SNUGLY OVER THE 2-1/4 IN. POST SECTION.

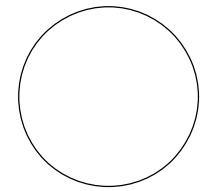
ALL SQUARE TUBULAR STEEL POSTS AND STEEL ANCHOR BASES SHALL BE FORMED FROM 12 GAUGE GALVANIZED STEEL. ALL SIDES OF THE TUBES SHALL HAVE 7/16 IN. DIE PUNCHED CIRCULAR HOLES OR PERFORATED KNOCK-OUTS, AT 1 IN. CENTERS ALONG THEIR ENTIRE LENGTH.



- NOTES**
- 12"x18" ACCESSIBILITY SIGN (R7-8) SHALL BE MOUNTED 7' FROM FINISH GRADE TO BOTTOM EDGE OF SIGN FACE. MOUNTING HEIGHT MAY BE REDUCED TO 5' IF PLACED IN A LANDSCAPE AREA IN WHICH PEDESTRIANS ARE NOT EXPECTED TO USE.
 - BOLLARD MAY BE OMITTED IF INSTALLED IN LANDSCAPE AREAS. WHEN INSTALLED IN LANDSCAPE AREAS, MOUNTING POST SHALL BE DRIVEN A MINIMUM OF 3' BELOW FINISHED GRADE. ALTERNATE MOUNTING POSTS MUST BE APPROVED BY THE FIELD INSPECTOR PRIOR TO CONSTRUCTION.
 - SIGNAGE SHALL BE INSTALLED IN FRONT OF EACH ACCESSIBLE SPACE, CENTERED ON THE WIDTH OF THE SPACE.
 - REFER TO AMERICANS WITH DISABILITIES ACT AND ARCHITECTURAL BARRIERS ACT ACCESSIBILITY GUIDELINES (ADAAG), LATEST EDITION, FOR REQUIRED NUMBER OF ACCESSIBLE SPACE. PER ADAAG, ONE VAN ACCESSIBLE SPACE SHALL BE PROVIDED, MINIMUM, WITH ADDITIONAL VAN ACCESSIBLE SPACES PER ADAAG REQUIREMENTS.
 - ALL SIGNAGE SHALL BE ENGINEER GRADE .080 ALUMINUM REFLECTIVE SIGN MEETING THE REQUIREMENTS OF THE MUTCD AND ADAAG.

ADA SIGN DETAIL
NOT TO SCALE

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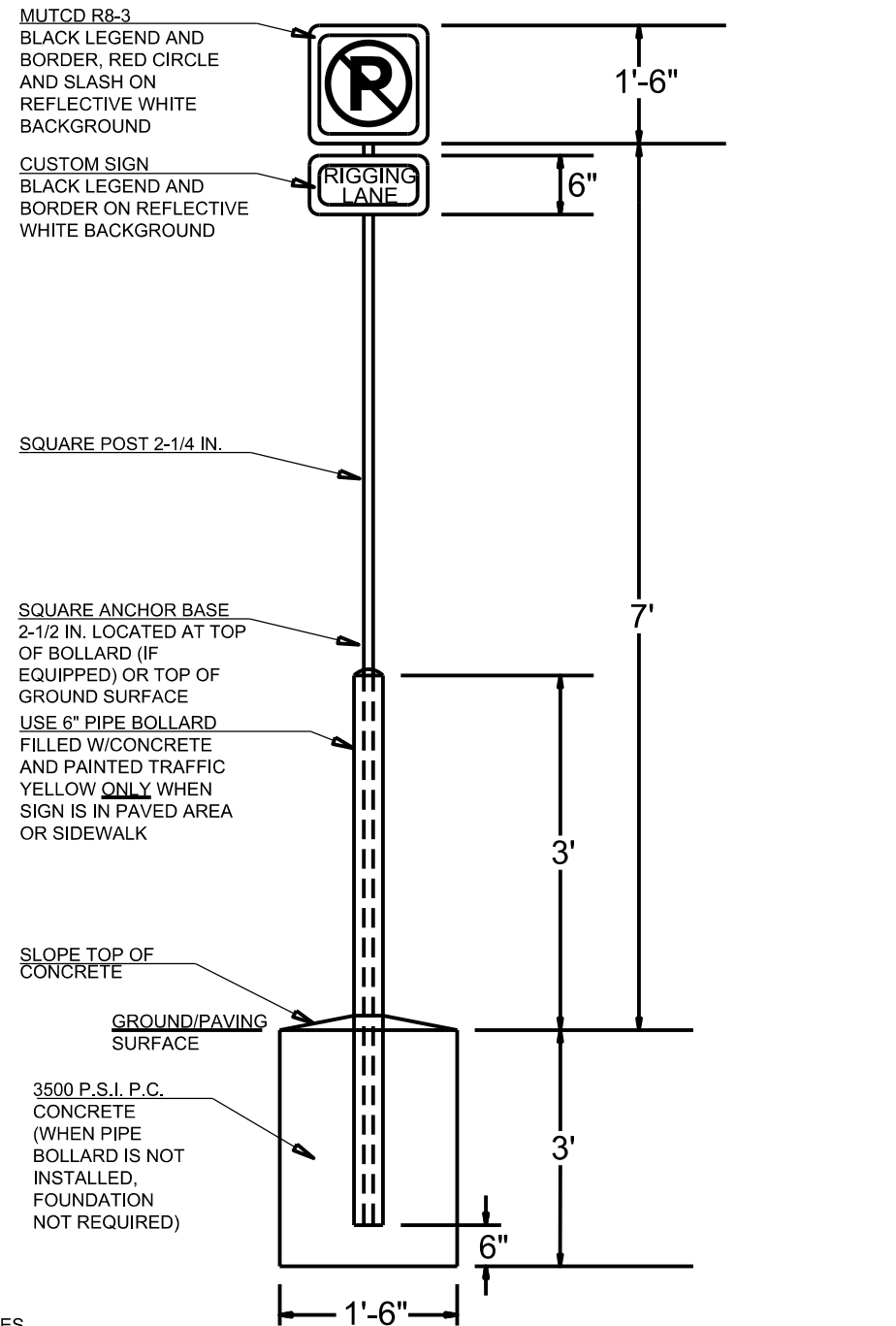
TYPICAL CROSS SECTIONS AND DETAILS

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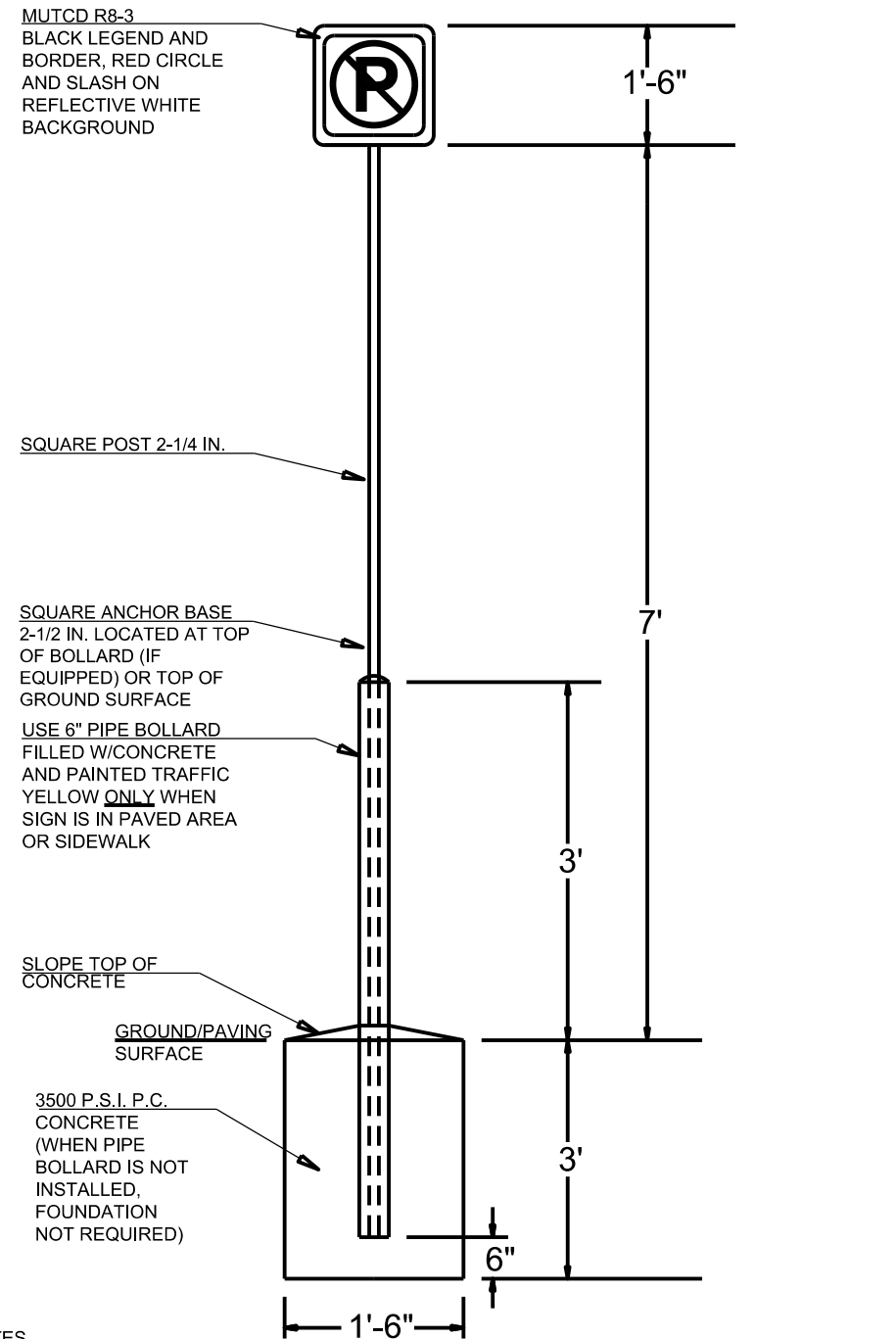
DRAWN BY: PROJECT NUMBER:
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CHK'D BY: DATE:



- NOTES**
1. 12"x12" NO PARKING SIGN (R8-3) SHALL BE MOUNTED 7' FROM FINISH GRADE TO BOTTOM EDGE OF SIGN FACE. MOUNTING HEIGHT MAY BE REDUCED TO 5' IF PLACED IN A LANDSCAPE AREA IN WHICH PEDESTRIANS ARE NOT EXPECTED TO USE.
 2. BOLLARD MAY BE OMITTED IF INSTALLED IN LANDSCAPE AREAS. WHEN INSTALLED IN LANDSCAPE AREAS, MOUNTING POST SHALL BE DRIVEN A MINIMUM OF 3' BELOW FINISHED GRADE. ALTERNATE MOUNTING POSTS MUST BE APPROVED BY THE FIELD INSPECTOR PRIOR TO CONSTRUCTION.
 3. ALL SIGNAGE SHALL BE ENGINEER GRADE .080 ALUMINUM REFLECTIVE SIGN MEETING THE REQUIREMENTS OF THE MUTCD AND ADAAG.

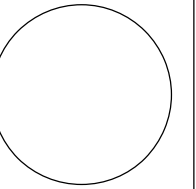
RIGGING LANE SIGN DETAIL
NOT TO SCALE



- NOTES**
1. 12"x12" NO PARKING SIGN (R8-3) SHALL BE MOUNTED 7' FROM FINISH GRADE TO BOTTOM EDGE OF SIGN FACE. MOUNTING HEIGHT MAY BE REDUCED TO 5' IF PLACED IN A LANDSCAPE AREA IN WHICH PEDESTRIANS ARE NOT EXPECTED TO USE.
 2. BOLLARD MAY BE OMITTED IF INSTALLED IN LANDSCAPE AREAS. WHEN INSTALLED IN LANDSCAPE AREAS, MOUNTING POST SHALL BE DRIVEN A MINIMUM OF 3' BELOW FINISHED GRADE. ALTERNATE MOUNTING POSTS MUST BE APPROVED BY THE FIELD INSPECTOR PRIOR TO CONSTRUCTION.
 3. ALL SIGNAGE SHALL BE ENGINEER GRADE .080 ALUMINUM REFLECTIVE SIGN MEETING THE REQUIREMENTS OF THE MUTCD AND ADAAG.

NO PARKING SIGN DETAIL
NOT TO SCALE

CONSULTANT:



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502 E. 9TH ST., DES MOINES, IA 50319-0034



TYPICAL CROSS SECTIONS AND DETAILS

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SHEET NO.:

B.06

MUTCD R7-6
SOLID RED LEGEND AND BORDER
REFLECTIVE WHITE BACKGROUND
"NO PARKING" IN LARGE LETTERS ON THE TOP TWO LINES ABOVE THE WORDS "LOADING ZONE" IN RED ON THE NEXT TWO LINES. A TWO-DIRECTION HORIZONTAL RED ARROW AT THE BOTTOM.

SQUARE POST 2-1/4 IN.

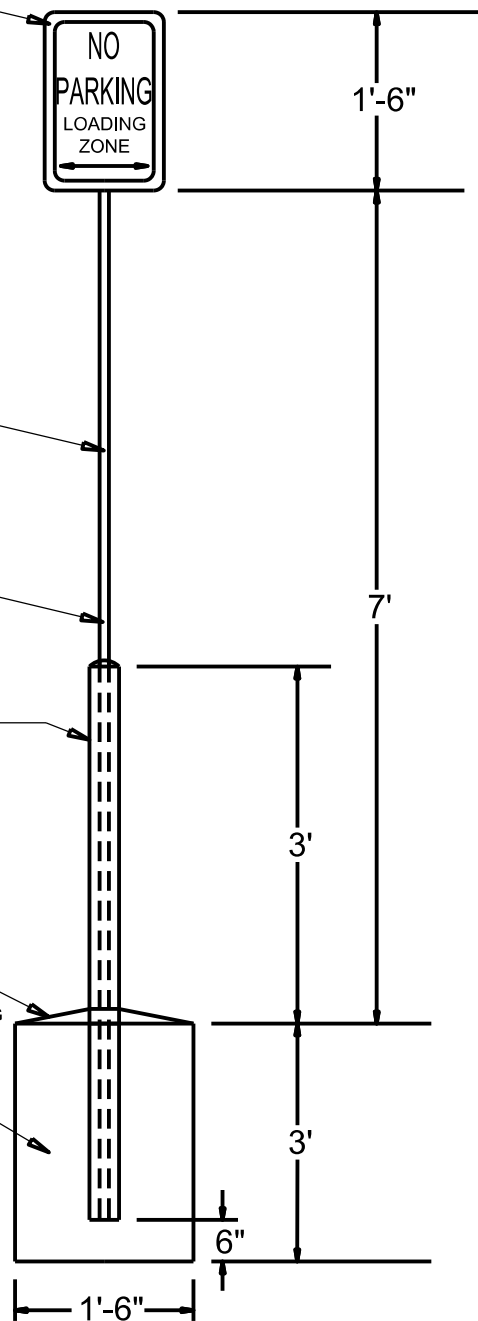
SQUARE ANCHOR BASE 2-1/2 IN. LOCATED AT TOP OF BOLLARD (IF EQUIPPED) OR TOP OF GROUND SURFACE

USE 6" PIPE BOLLARD FILLED W/CONCRETE AND PAINTED TRAFFIC YELLOW ONLY WHEN SIGN IS IN PAVED AREA OR SIDEWALK

SLOPE TOP OF CONCRETE

GROUND/PAVING SURFACE

3500 P.S.I. P.C. CONCRETE (WHEN PIPE BOLLARD IS NOT INSTALLED, FOUNDATION NOT REQUIRED)



NOTES

1. 12"x18" NO PARKING SIGN (R7-6) SHALL BE MOUNTED 7' FROM FINISH GRADE TO BOTTOM EDGE OF SIGN FACE. MOUNTING HEIGHT MAY BE REDUCED TO 5' IF PLACED IN A LANDSCAPE AREA IN WHICH PEDESTRIANS ARE NOT EXPECTED TO USE.
2. BOLLARD MAY BE OMITTED IF INSTALLED IN LANDSCAPE AREAS. WHEN INSTALLED IN LANDSCAPE AREAS, MOUNTING POST SHALL BE DRIVEN A MINIMUM OF 3' BELOW FINISHED GRADE. ALTERNATE MOUNTING POSTS MUST BE APPROVED BY THE FIELD INSPECTOR PRIOR TO CONSTRUCTION.
3. ALL SIGNAGE SHALL BE ENGINEER GRADE .080 ALUMINUM REFLECTIVE SIGN MEETING THE REQUIREMENTS OF THE MUTCD AND ADAAG.

LOADING ZONE DETAIL
NOT TO SCALE

MUTCD R5-15
SOLID BLACK LEGEND AND BORDER
REFLECTIVE WHITE BACKGROUND
"AUTHORIZED VEHICLES ONLY" IN LARGE LETTERS CENTERED

SQUARE POST 2-1/4 IN.

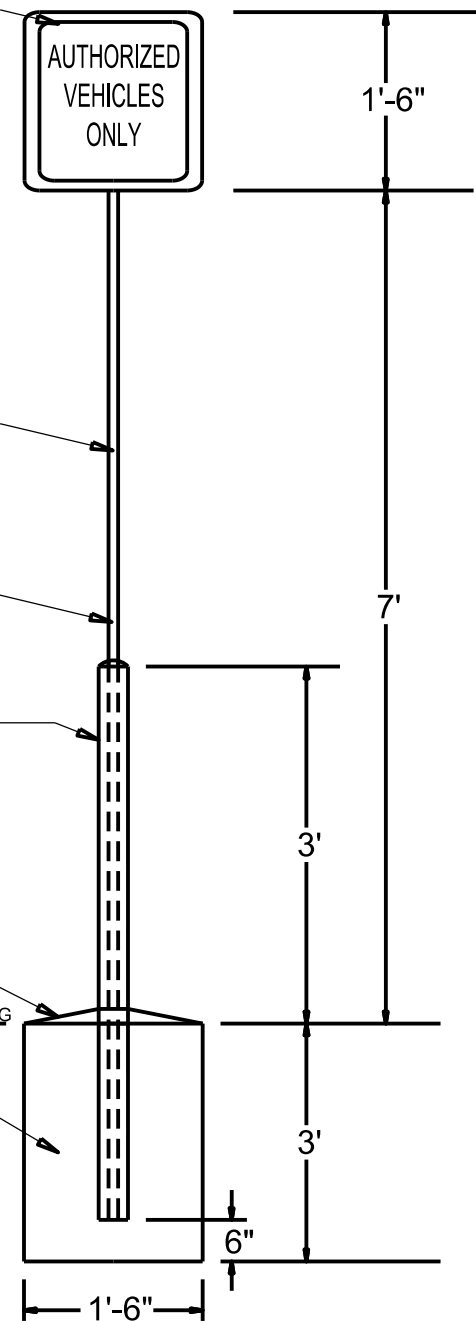
SQUARE ANCHOR BASE 2-1/2 IN. LOCATED AT TOP OF BOLLARD (IF EQUIPPED) OR TOP OF GROUND SURFACE

USE 6" PIPE BOLLARD FILLED W/CONCRETE AND PAINTED TRAFFIC YELLOW ONLY WHEN SIGN IS IN PAVED AREA OR SIDEWALK

SLOPE TOP OF CONCRETE

GROUND/PAVING SURFACE

3500 P.S.I. P.C. CONCRETE (WHEN PIPE BOLLARD IS NOT INSTALLED, FOUNDATION NOT REQUIRED)

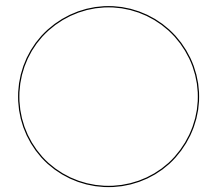


NOTES

1. 18"x18" AUTHORIZED VEHICLES ONLY SIGN (R5-15) SHALL BE MOUNTED 7' FROM FINISH GRADE TO BOTTOM EDGE OF SIGN FACE. MOUNTING HEIGHT MAY BE REDUCED TO 5' IF PLACED IN A LANDSCAPE AREA IN WHICH PEDESTRIANS ARE NOT EXPECTED TO USE.
2. BOLLARD MAY BE OMITTED IF INSTALLED IN LANDSCAPE AREAS. WHEN INSTALLED IN LANDSCAPE AREAS, MOUNTING POST SHALL BE DRIVEN A MINIMUM OF 3' BELOW FINISHED GRADE. ALTERNATE MOUNTING POSTS MUST BE APPROVED BY THE FIELD INSPECTOR PRIOR TO CONSTRUCTION.
3. ALL SIGNAGE SHALL BE ENGINEER GRADE .080 ALUMINUM REFLECTIVE SIGN MEETING THE REQUIREMENTS OF THE MUTCD AND ADAAG.

AUTHORIZED VEHICLES ONLY DETAIL
NOT TO SCALE

CONSULTANT:



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TYPICAL CROSS SECTIONS AND DETAILS

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B.07

SOLID GREEN LEGEND
AND BORDER
REFLECTIVE WHITE
BACKGROUND
"EMPLOYEE PARKING
ONLY" IN LARGE LETTERS

SQUARE POST 2-1/4 IN.

SQUARE ANCHOR BASE
2-1/2 IN. LOCATED AT TOP
OF BOLLARD (IF
EQUIPPED) OR TOP OF
GROUND SURFACE

USE 6" PIPE BOLLARD
FILLED W/CONCRETE
AND PAINTED TRAFFIC
YELLOW ONLY WHEN
SIGN IS IN PAVED AREA
OR SIDEWALK

SLOPE TOP OF
CONCRETE

GROUND/PAVING
SURFACE

3500 P.S.I. P.C.
CONCRETE
(WHEN PIPE
BOLLARD IS NOT
INSTALLED,
FOUNDATION
NOT REQUIRED)

NOTES

1. 12"x18" EMPLOYEE PARKING ONLY SHALL BE MOUNTED 7' FROM FINISH GRADE TO BOTTOM EDGE OF SIGN FACE. MOUNTING HEIGHT MAY BE REDUCED TO 5' IF PLACED IN A LANDSCAPE AREA IN WHICH PEDESTRIANS ARE NOT EXPECTED TO USE.
2. BOLLARD MAY BE OMITTED IF INSTALLED IN LANDSCAPE AREAS. WHEN INSTALLED IN LANDSCAPE AREAS, MOUNTING POST SHALL BE DRIVEN A MINIMUM OF 3' BELOW FINISHED GRADE. ALTERNATE MOUNTING POSTS MUST BE APPROVED BY THE FIELD INSPECTOR PRIOR TO CONSTRUCTION.
3. ALL SIGNAGE SHALL BE ENGINEER GRADE .080 ALUMINUM REFLECTIVE SIGN MEETING THE REQUIREMENTS OF THE MUTCD AND ADAAG.

EMPLOYEE PARKING ONLY DETAIL
NOT TO SCALE

MUTCD R6-6
SOLID BLACK BORDER
REFLECTIVE WHITE
BACKGROUND
"BEGIN ONE WAY" IN
LARGE LETTERS.

SQUARE POST 2-1/4 IN.

SQUARE ANCHOR BASE
2-1/2 IN. LOCATED AT TOP
OF BOLLARD (IF
EQUIPPED) OR TOP OF
GROUND SURFACE

USE 6" PIPE BOLLARD
FILLED W/CONCRETE
AND PAINTED TRAFFIC
YELLOW ONLY WHEN
SIGN IS IN PAVED AREA
OR SIDEWALK

SLOPE TOP OF
CONCRETE

GROUND/PAVING
SURFACE

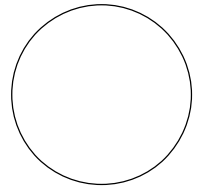
3500 P.S.I. P.C.
CONCRETE
(WHEN PIPE
BOLLARD IS NOT
INSTALLED,
FOUNDATION
NOT REQUIRED)

NOTES

1. 12"x18" BEGIN ONE WAY SHALL BE MOUNTED 7' FROM FINISH GRADE TO BOTTOM EDGE OF SIGN FACE. MOUNTING HEIGHT MAY BE REDUCED TO 5' IF PLACED IN A LANDSCAPE AREA IN WHICH PEDESTRIANS ARE NOT EXPECTED TO USE.
2. BOLLARD MAY BE OMITTED IF INSTALLED IN LANDSCAPE AREAS. WHEN INSTALLED IN LANDSCAPE AREAS, MOUNTING POST SHALL BE DRIVEN A MINIMUM OF 3' BELOW FINISHED GRADE. ALTERNATE MOUNTING POSTS MUST BE APPROVED BY THE FIELD INSPECTOR PRIOR TO CONSTRUCTION.
3. ALL SIGNAGE SHALL BE ENGINEER GRADE .080 ALUMINUM REFLECTIVE SIGN MEETING THE REQUIREMENTS OF THE MUTCD AND ADAAG.

BEGIN ONE WAY DETAIL
NOT TO SCALE

CONSULTANT:



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NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILDING
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TYPICAL CROSS SECTIONS AND DETAILS

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BIG CREEK STATE PARK
POLK COUNTY

NO.	DATE	REVISION

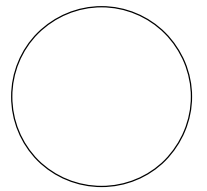
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22-02-77-01

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SHEET No:

B.08

CONSULTANT:



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TYPICAL CROSS SECTIONS AND DETAILS

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POLK COUNTY

NO. BY DATE REVISION

DRAWN BY: PROJECT NUMBER:

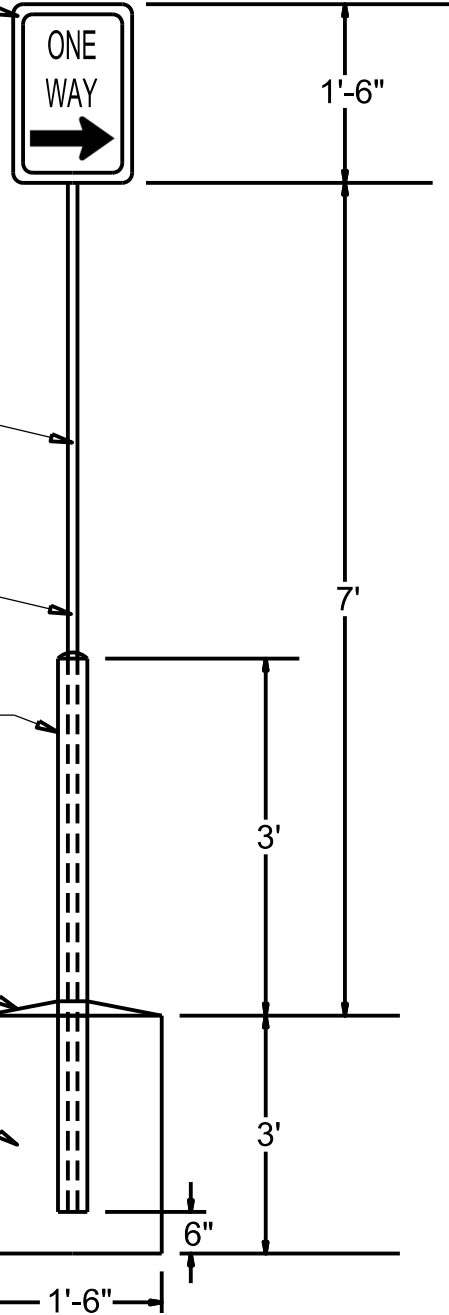
22-02-77-01

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SHEET No:

B.09

MUTCD R6-2R
SOLID BLACK BORDER
REFLECTIVE WHITE
BACKGROUND
"ONE WAY" IN LARGE
LETTERS ABOVE ARROW
POINTING TO THE RIGHT.



SQUARE POST 2-1/4 IN.

SQUARE ANCHOR BASE
2-1/2 IN. LOCATED AT TOP
OF BOLLARD (IF
EQUIPPED) OR TOP OF
GROUND SURFACE

USE 6" PIPE BOLLARD
FILLED W/CONCRETE
AND PAINTED TRAFFIC
YELLOW ONLY WHEN
SIGN IS IN PAVED AREA
OR SIDEWALK

SLOPE TOP OF
CONCRETE

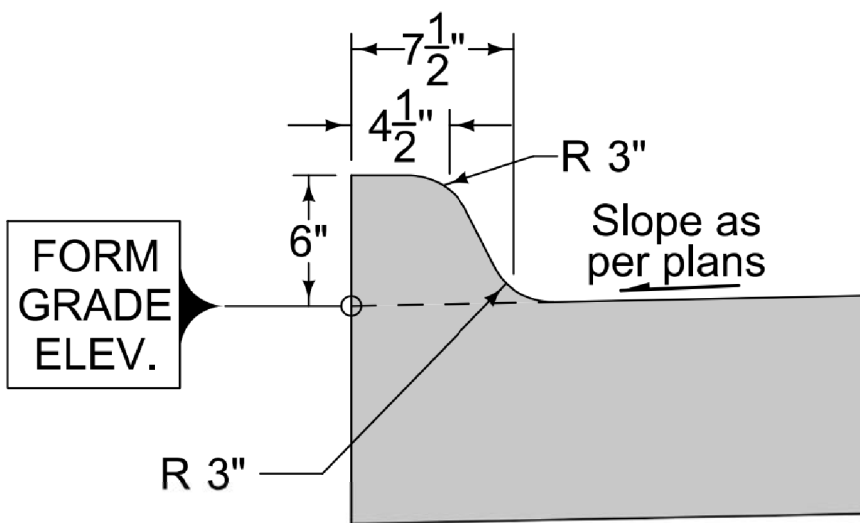
GROUND/PAVING
SURFACE

3500 P.S.I. P.C.
CONCRETE
(WHEN PIPE
BOLLARD IS NOT
INSTALLED,
FOUNDATION
NOT REQUIRED)

NOTES

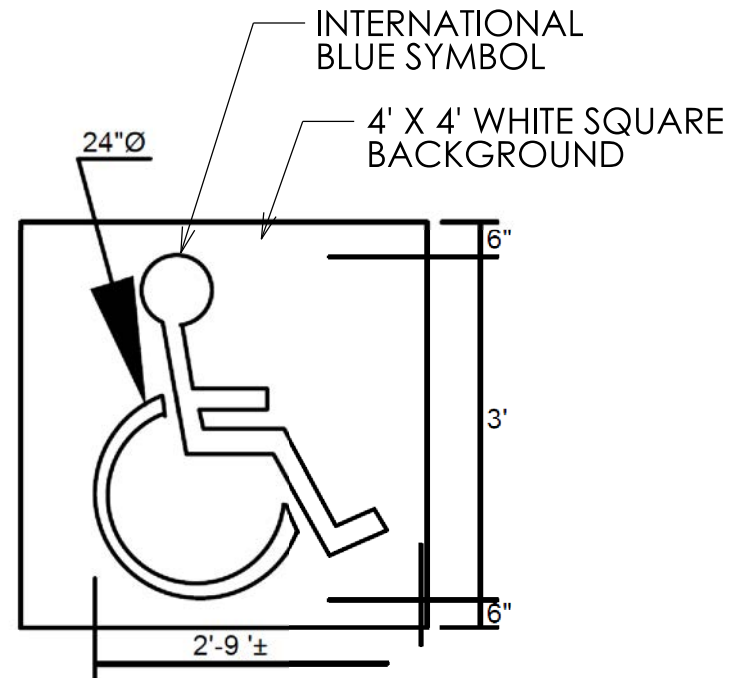
1. 12"x18" ONE WAY SIGN SHALL BE MOUNTED 7' FROM FINISH GRADE TO BOTTOM EDGE OF SIGN FACE. MOUNTING HEIGHT MAY BE REDUCED TO 5' IF PLACED IN A LANDSCAPE AREA IN WHICH PEDESTRIANS ARE NOT EXPECTED TO USE.
2. BOLLARD MAY BE OMITTED IF INSTALLED IN LANDSCAPE AREAS. WHEN INSTALLED IN LANDSCAPE AREAS, MOUNTING POST SHALL BE DRIVEN A MINIMUM OF 3' BELOW FINISHED GRADE. ALTERNATE MOUNTING POSTS MUST BE APPROVED BY THE FIELD INSPECTOR PRIOR TO CONSTRUCTION.
3. ALL SIGNAGE SHALL BE ENGINEER GRADE .080 ALUMINUM REFLECTIVE SIGN MEETING THE REQUIREMENTS OF THE MUTCD AND ADAAG.

ONE WAY DETAIL
NOT TO SCALE

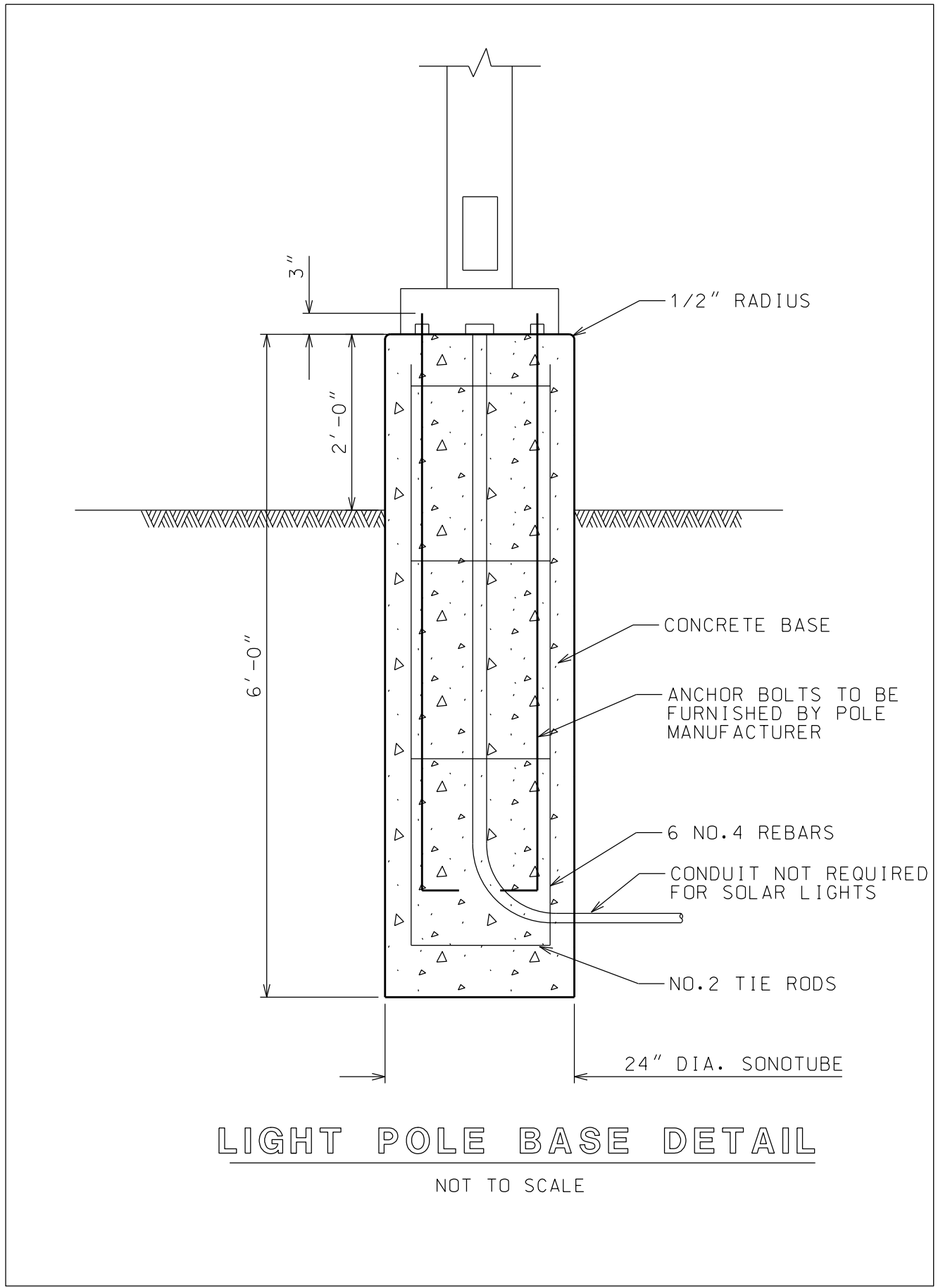


CURB DETAIL
NOT TO SCALE

TOP EDGE OF THE PAVEMENT MARKING SHALL BE 13' FROM THE TOP OF THE PARKING SPACE.

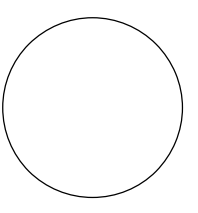


**HANDICAP PARKING
PAVEMENT MARKING**
NOT TO SCALE



LIGHT POLE BASE DETAIL
NOT TO SCALE

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502 E. 9TH ST., DES MOINES, IA 50319-0034



TYPICAL CROSS SECTIONS AND DETAILS

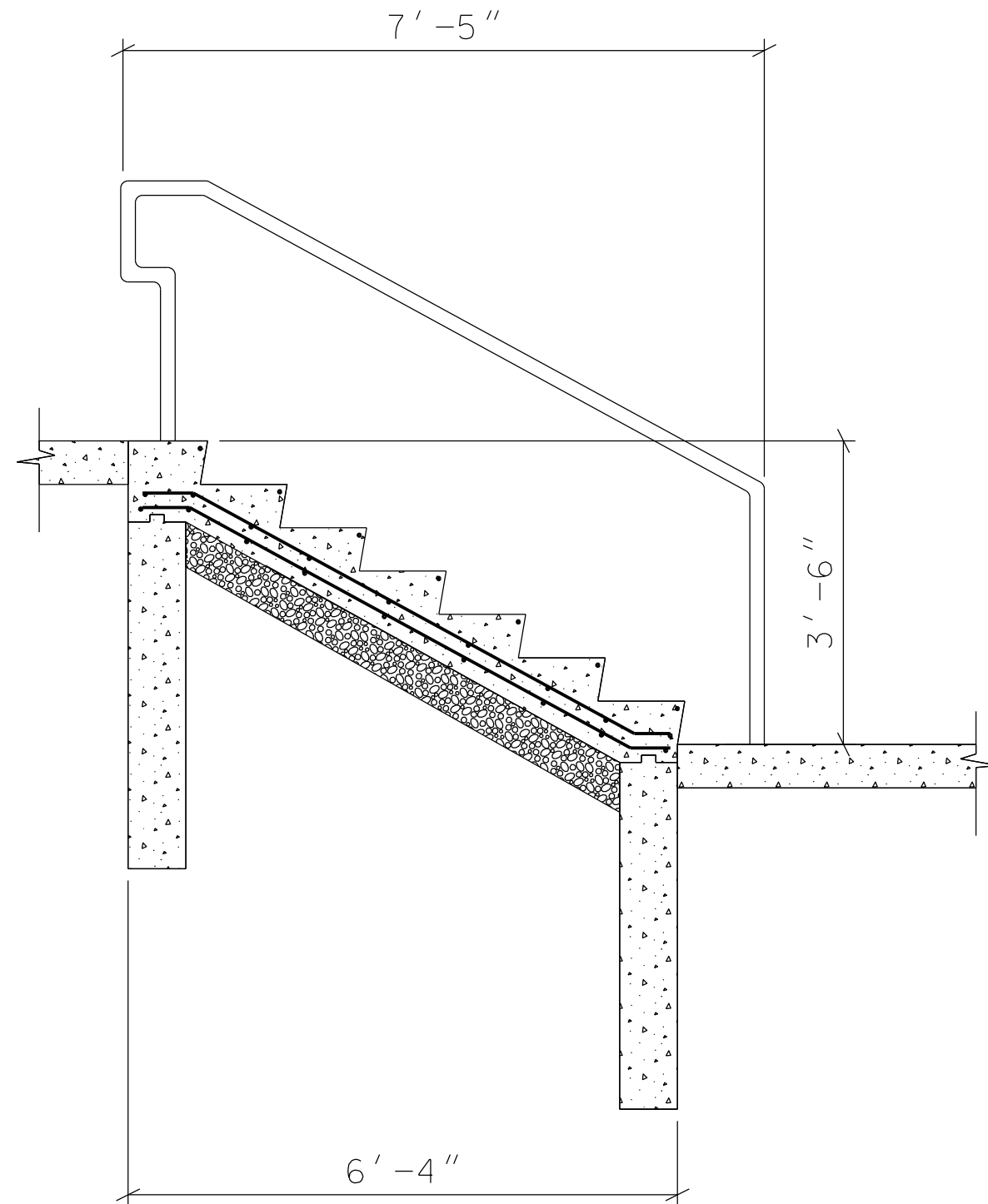
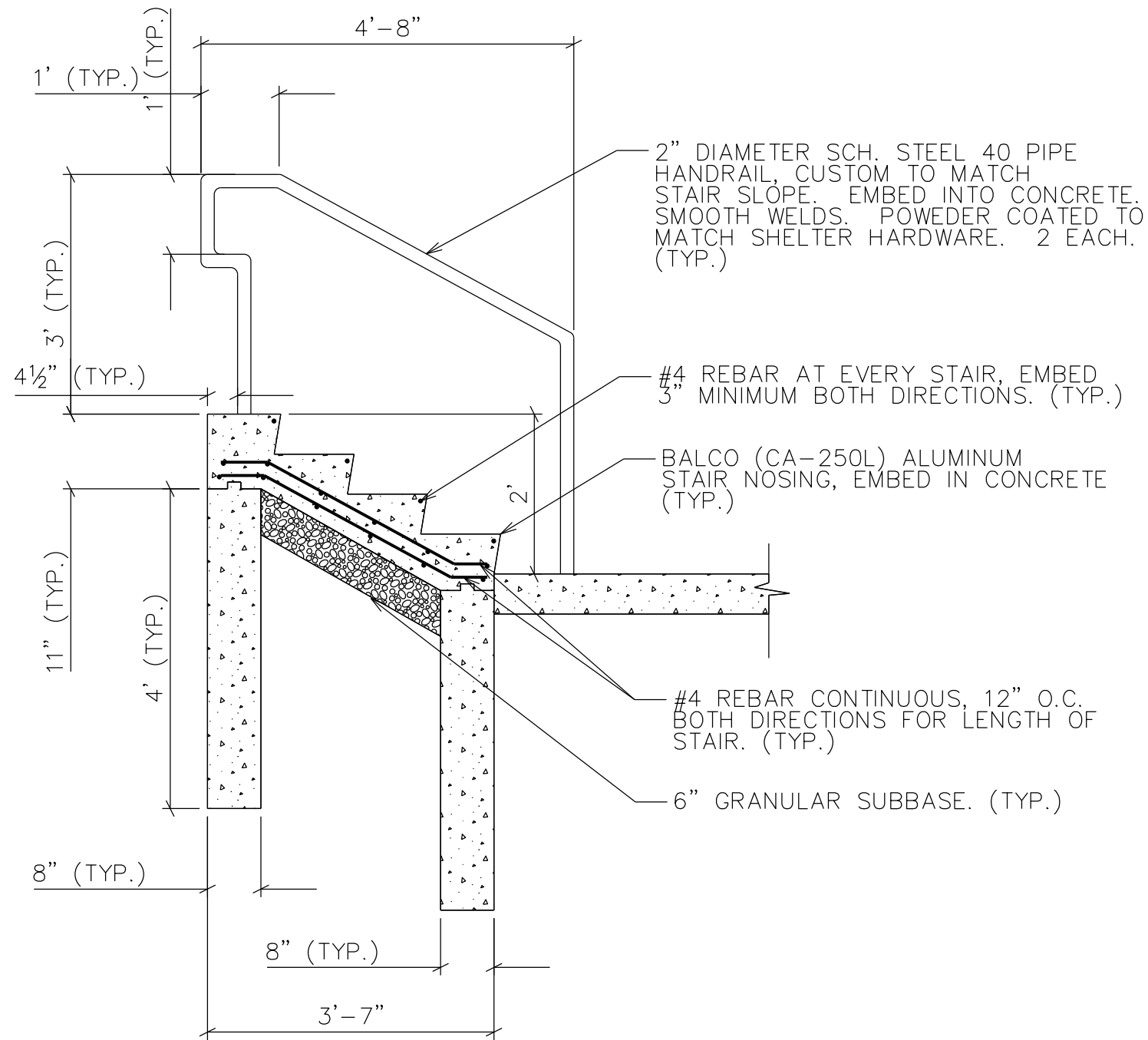
PCC PAVING FOR:
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POLK COUNTY

NO.	BY	REVISION

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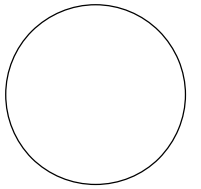
Stairs consists of one set of four stairs, four sets of seven stairs, concrete pads between sets, and the culvert crossing. Each stair set is to have railings on both sides of the stairs. All pavement is to be six feet wide.

Concrete pads shall be 5" thick, placed on 6" of compacted Granular Subbase.

Culvert crossing consists of a single 8' long 18" diameter RCP pipe section set on existing grade. Concrete headwalls are to be constructed on the upstream and downstream sides of the sidewalk, with minimum wall thicknesses of 8". Alternatively, the sidewalk and headwalls may be poured as a monolithic unit.

All work defined on this sheet is incidental to the Remove and Replace Stairs line item.

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ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034



TYPICAL CROSS SECTIONS AND DETAILS

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B.11

ESTIMATED PROJECT QUANTITIES

ITEM NO.	ITEM	UNIT	TOTAL
1	Mobilization	Lump Sum	1
2	Traffic Control	Lump Sum	1
3	Construction Survey	Lump Sum	1
4	Site Restoration	Lump Sum	1
5	15" Dia. RCP	LF	180
6	15" Dia. RCP Apron	Each	1
7	18" Dia. RCP	LF	247
8	18" Dia. RCP Apron	Each	7
9	24" Dia. RCP	LF	81
10	24" Dia. RCP Apron	Each	4
11	5" PCC	SY	181
12	6" Curb	LF	2830
13	6" PCC	SY	41418
14	Class A Crushed Stone	Tons	45
15	Concrete Pipe Disposal	Lump Sum	1
16	Curb Cuts	Each	51
17	Demolish Kiosk and Light Pole	Lump Sum	1
18	Electrical Connection - East Boat Ramp	Lump Sum	1
19	Excavation, Class 10, Waste	CY	8331
20	Light Pole with Base	Each	3
21	Parking Bumper	Each	4
22	Pavement Markings - ADA Parking	Each	13
23	Pavement Removal	SY	33886
24	Pavement Striping	LF	16659
25	Raise Stormwater Intakes	Each	3
26	Removable Bollard	Each	1
27	Remove and Dispose of Chain Link Fence	LF	621
28	Remove and Dispose of Light Pole	Each	4
29	Remove and Replace Stairs	Lump Sum	1
30	Seeding, Native Prairie	Acres	1.1
31	Sign - ADA Parking	Each	10
32	Sign - Authorized Vehicles	Each	2
33	Sign - Begin One Way	Each	2
34	Sign - Employee Parking	Each	3
35	Sign - Loading Zone	Each	3
36	Sign - No Parking	Each	10
37	Sign - One Way	Each	1
38	Sign - Rigging Lane	Each	21
39	Solar Light Pole with Base	Each	1
40	Special Backfill	Tons	14104
41	SW-501 Single Grate Intake	Each	2
42	SW-512 Circular Area Intake	Each	1
43	SW-513 Open Sided Area Intake	Each	1
44	Trench Drain	LF	44
45	Truncated Dome Panel	Each	2

CONSTRUCTION SCHEDULE CONSTRAINTS

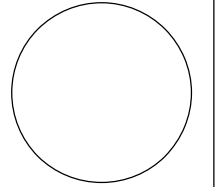
During the recreation season (May 26 through September 6), work is to start at the East Boat Ramp, followed by the West Boat Ramp, and end at the Main Boat Ramp. Only one of the three larger boat ramps (Main Boat Ramp, East Boat Ramp, and West Boat Ramp) may be closed at any given time. There are no work or sequencing restrictions for work outside of the recreation season.

Work may occur at the William's Drive Boat Ramp at any time during the contract period.

ESTIMATE REFERENCE INFORMATION

ITEM NO.	DESCRIPTION
3	A. Contractor shall survey the existing pavement with enough detail to reproduce the same elevations and grades for the final pavement. B. Paving layout shall be submitted to the DNR Engineer for review prior to grading. C. Stormwater flowlines and pipe length measurements are incidental to this line item. D. Construction staking is incidental to this line item. E. The DNR will provide a 3-D design file and control points for areas that have changes in grade.
4	A. All disturbed area, unless otherwise designated, shall have the seed bed prepared, seeded, fertilized, and mulched. B. Seed mix shall be permanent urban mix.
5	A. Backfill and compaction are incidental to this line item.
7	A. Backfill and compaction are incidental to this line item.
9	A. Backfill and compaction are incidental to this line item.
11	A. PCC shall be standard or slip form, C-mix B. Control Joints shall be incidental to this bid item. C. Joint Sealing shall be incidental to this bid item. D. Control joints shall be placed at spacing equal to the pavement width (square panels).
13	A. PCC shall be standard or slip form, C-mix B. Control Joints shall be incidental to this bid item. C. Joint Sealing shall be incidental to this bid item. D. Contractor shall submit joint plan to the DNR Engineer for review and approval. Joint plan shall conform to Iowa Department of Transportation standards. Joint construction shall follow the Iowa Department of Transportation Standard Road Plan PV-101. Joint Spacing shall be approximately 10' on center. All cold joints shall be a "BT" joint. 2' (min.) blockouts required at acute angles. E. Center steel shall consist of one #4 bar, 30' long, placed at 30" centers and shall be incidental.
16	A. Curb cuts shall be 3 feet long, and occur 10 feet O.C. B. Curb cuts may be cast.
17	A. This line includes all necessary labor and material to demolish the existing kiosk and light pole at the West Boat Ramp. B. Abandonment of the light pole electrical connection shall be incidental to this line item, and shall conform to the current National Electric Code.
18	A. This line item includes all necessary labor and material to abandon the existing electrical connection between the electrical shutoff and the existing light poles, and to provide new connections from the existing shutoff to the new LED light poles. B. All work shall conform to the current National Electric Code.
19	A. Cored out material shall be disposed of by the contractor off site.
20	A. This line item includes the concrete base (see sheet B.10), the light pole, and the luminaire. B. The light pole shall be manufactured by AV Poles & Lighting of Lancaster, CA, model SSS-204.7, 20 feet tall, dark bronze, or approved equal. C. The luminaire shall be manufactured by AV Poles & Lighting of Lancaster, CA, model AVPL-GL-SB 609-IV-73W-5000K-120-277V-1@90-BRKBZ-PHOTOCELL, or approved equal. D. Removal and disposal of existing light pole and fixture shall be incidental to this line item.
21	A. Minimum dimensions shall be 6 feet by 9 inches by 4 1/2 inches high, with chamfered edges. B. Fork lift/drain openings are required. C. Bumpers shall be anchored with two #6 epoxy coated bars, drilled and epoxied into the pavement.
23	A. Sawcutting of adjacent pavement to make a clean edge for abutting new pavement shall be incidental. B. Storm sewer demolition shall be incidental to this line item. C. Trench drain demolition at the East Boat Ramp shall be incidental to this line item. D. Asphalt millings is allowed to be used as Special Backfill provided that it meets the requirements of Section 4132. E. At the contractor's option, approximately 130 tons of asphalt millings, that meet Section 4132 Special Backfill requirements may be disposed of as directed by the engineer at the West Bone Yard, and approximately 130 tons of asphalt millings, meeting the same requirements, may be disposed of as directed by the engineer at the East Bone Yard (see sheet A.02 for locations).
24	A. Pavement striping shall be yellow. B. Hatched areas shall have 4' spacing.
25	A. This item includes all necessary labor and materials to raise the stormwater intake grate to the design finish grade of the pavement. B. New intake grates and frames shall be used.
26	A. The bollard shall be the 4"x36" powder coated yellow removable bollard as manufactured by Post Guard/Encore Commercial Products, Inc. of Farmington Hills, MI, or approved equal.
30	A. Only hydraulic seeding and mulching is allowed for this line item. B. Seeding rates shall meet the requirements of Table 2601.03-5: Native Grass Seed Rates
31	A. Post material is incidental to this line item.
32	A. Post material is incidental to this line item.
33	A. Post material is incidental to this line item.
34	A. Post material is incidental to this line item.
35	A. Post material is incidental to this line item.
36	A. Post material is incidental to this line item.
37	A. Post material is incidental to this line item.
38	A. Post material is incidental to this line item.
39	A. This line item includes the concrete base (see sheet B.10), the light pole, and the luminaire. B. The luminaire and light pole shall be manufactured by Fonroche Lighting of Needham, MA, model RFS-35W16LED-4K-T4-BK-HS-P260F-T3-HW-MC-2P-45-RTA-20E-8B4-1S2C-BK, or approved equal.
40	A. Rock base extends 2 feet beyond edge of roadway and parking lot pavement.
42	A. Use the tee connection for this line item. B. Type 3 casting.
43	A. The Open Sided Area Intake shall have openings on all four sides of the structure. B. When used as an outlet structure, a 24" hole shall be constructed on the downstream side of the structure at grade level.
44	A. Minimum trench drain width is 12".
45	A. Truncated domes panel shall be constructed of cast iron, be 24 inches long, and the full width of the concrete.

CONSULTANT:



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QUANTITIES AND GENERAL INFORMATION

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SHEET No.:

C.01

GENERAL NOTES

Verify actual locations and elevations with DNR Engineer.

All work shall conform to and be performed in accordance with all applicable codes and ordinances.

The contractor shall visit the site and inspect the project area and thoroughly familiarize themselves with the actual job conditions prior to bidding and the start of work. Failure to visit the project site shall not relieve the contractor from performing the work in accordance to the plans, specification, special provisions and contract.

The contractor shall verify, at the site, all dimensions and conditions shown on the plans and shall notify the DNR Engineer of any discrepancies, omissions, and/or conflicts prior to proceeding with the work.

It shall be the contractor's responsibility to provide waste areas or disposal sites for excess material (excavated material or broken concrete) which is not desirable to be incorporated into the work involved on this project. No payment for overhaul will be allowed for material hauled to these sites. No material shall be placed within the right-of-way, unless specifically stated in the plans or approved by the DNR Engineer.

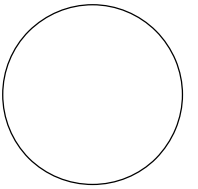
The contractor shall not disturb desirable grass areas and desirable trees outside the construction limits. The contractor will not be permitted to park or service vehicles and equipment or use these areas for storage of materials. Storage, parking and service areas will be subject to the approval of the DNR Engineer.

Where utilities and fixtures are shown as Existing on the plans or encountered within the construction area, it shall be the responsibility of the contractor to notify the DNR Engineer of those utilities prior to the beginning of any construction. The contractor shall be afforded access to these facilities for necessary modification of services. Underground facilities, structures and utilities have been plotted from available surveys and records and therefore their locations must be considered approximate only. It is possible there may be others, the existence of which is presently not known or shown. It is the contractor's responsibility to determine their existence and exact location and to avoid damage thereto. No claims for additional compensation will be allowed to the contractor for any interference or delay caused by such work.

The contractor shall shape graded area to maintain surface drainage. All elevations are to finish grade.

The contractor is expected to have materials, equipment, and labor available on a daily basis to install and maintain erosion control features on the project. This may involve seeding, silt fence, rock ditch checks, silt basins or silt dikes.

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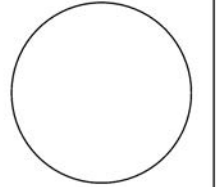
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SITE PLAN

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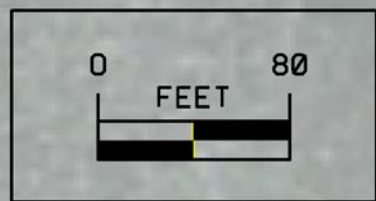
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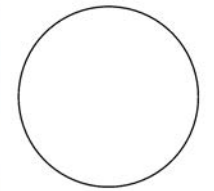
Main Boat Ramp Parking



Note:
Existing parking bumpers will be removed by DNR staff prior to pavement removal activities



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MAIN BOAT RAMP PLAN

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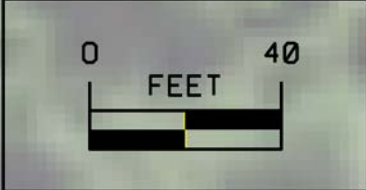
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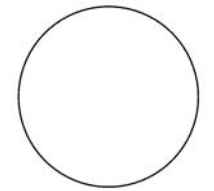
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MAIN BOAT RAMP PLAN

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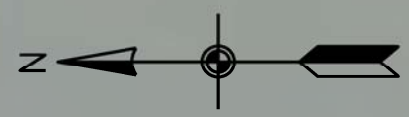
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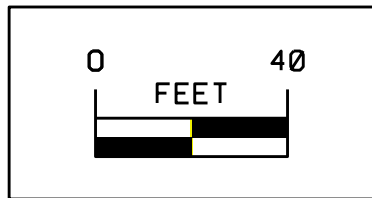
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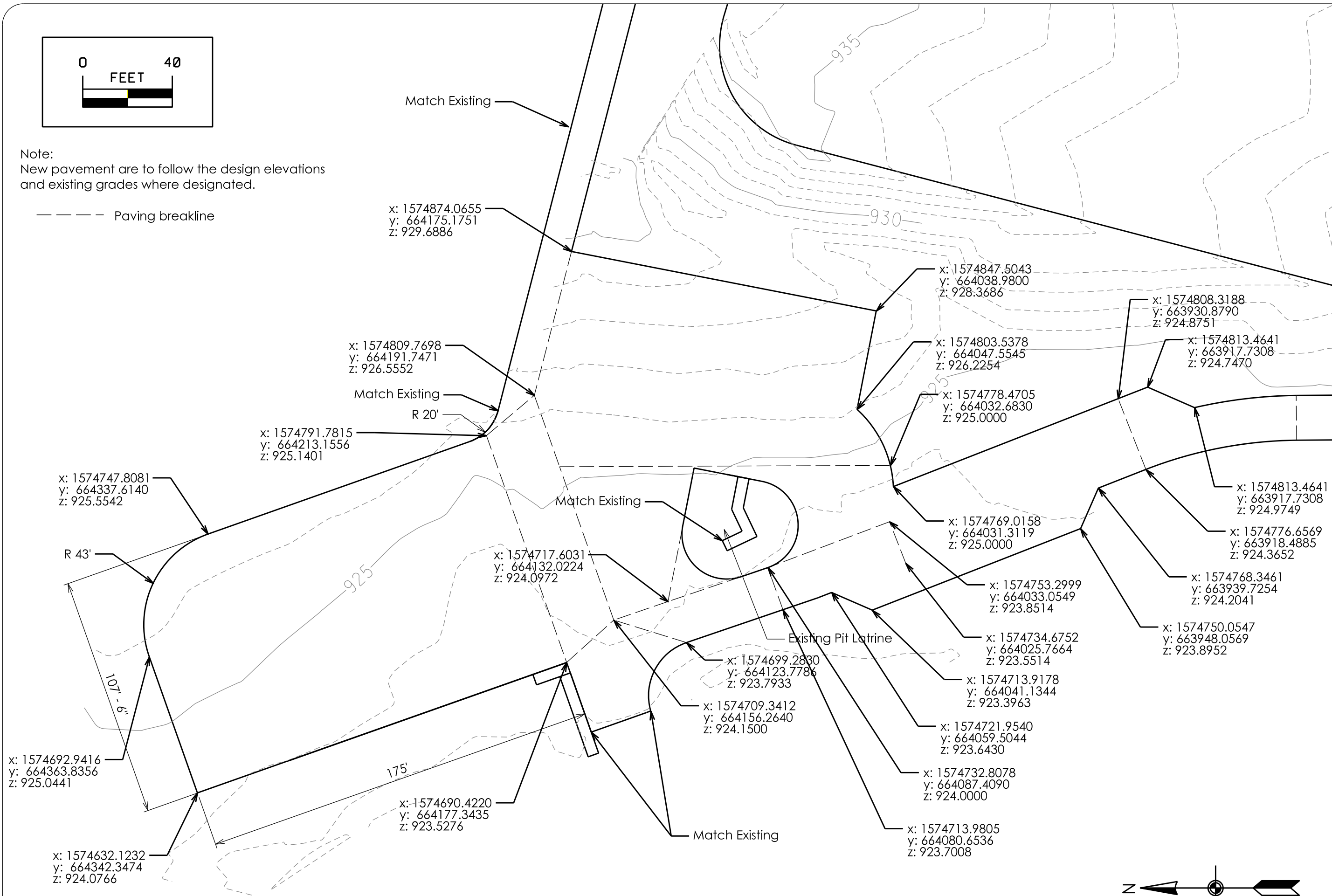
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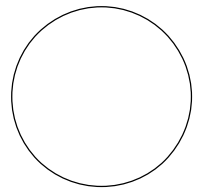


Note:
New pavement are to follow the design elevations
and existing grades where designated.

----- Paving breakline



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MAIN BOAT RAMP PLAN

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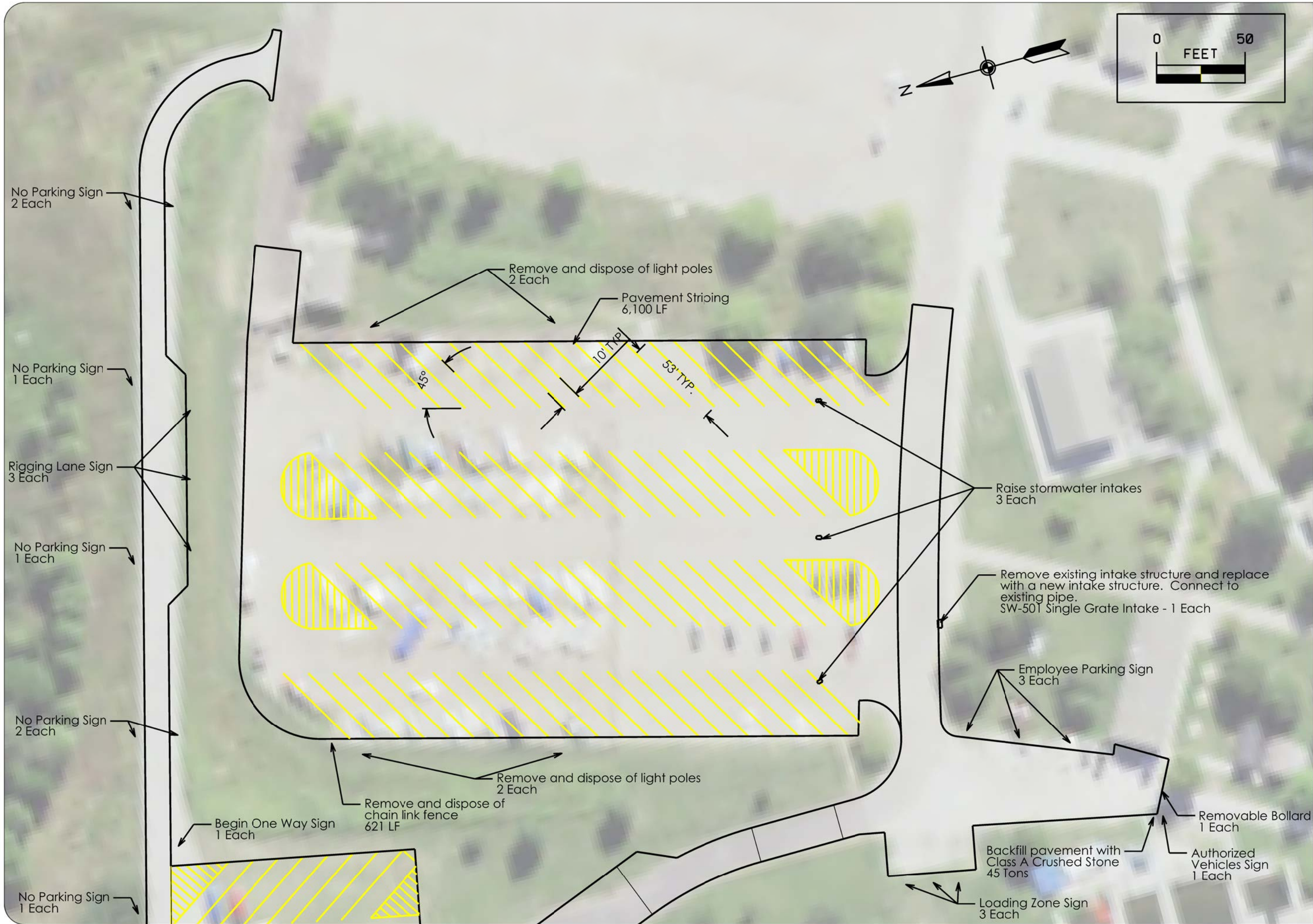
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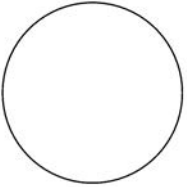
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MAIN OVERFLOW PLAN

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